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ABSTRACT

The purpose of this 2-year study was to examine the relationship of choice of play-style and sex of child to the type of feedback (positive or negative) children receive from teachers and peer groups for their behavior. A list of 33 child behaviors and 15 teacher and peer reactions was used to observe the behavior of 67 children (32 boys and 35 girls, 18-58 months old). Each child was observed in a predetermined order once every 5 minutes for 5 seconds with the child behavior, the reactors (peer or teacher), and the reactions being coded. The results were discussed in terms of high and low scores on four factors: (1) high task complexity (2) high social cooperation (3) activity level, and (4) passive-withdrawn behavior. Among these results it was found that children high on factor 1 received more positive teacher feedback, while children low on this factor played alone significantly more and received more negative teacher feedback. Children high on factor 2 received more positive teacher and peer feedback; within this group, girls received more positive teacher feedback and they played alone less than boys. Children high on factor 3 received more peer comment and more teacher criticism. A significant sex difference was found on factor 4 with girls receiving more positive teacher feedback than other groups. Further analysis, in four different combinations of loadings on factors 1 and 3, was carried out on two girls and two boys who were above and below the mean for each of the four factors; results were discussed. (MP)

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Sex Determined Consequences of Different Play Styles in Early Childhood

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Sex differences in the play of children from the age of three and older are well established and have remained much the same over a 15 year period (Fagot, 1977). In trying to understand sex differences we have gone from showing that they exist to trying to understand the consequences of the differences for the child's cognitive and social development.

Today I would like to talk about the different consequences for boys and girls of 18 to 58 months of choosing particular styles of play. In a previous study (Fagot, 1978) I observed that children who chose traditional, androgynous or low sex typing were treated differently and showed different styles of play. Children high on a factor loaded with traditional feminine preferred items were less likely to be passive and withdrawn than other children and were low on a factor consisting of tasks rated high on cognitive complexity. Children choosing traditional sex role behaviors were given more positive feedback from peers. Children in the low sex stereotyped category received significantly less positive peer and teacher reaction than other children. Children in the androgynous factor (high on masculine and feminine factors) received more negative feedback than children in the other three categories.

In the present study, I wish to look at the relationship of choice of play style and sex of child to the type of feedback the children receive to their behavior.

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METHOD

Subjects

Sixty-seven children, aged 18 months to 58 months participated in this study. Thirty-two of the children were boys and 35 were girls. The children were solicited from newspaper ads offering 4 hours of supervised free play per week in return for permission to observe. The socioeconomic background of the children varied: sixty of the children came from intact families, and had no previous day care experience. Basically these were home reared children. Sixty of the children were white, 2 were black, 2 Mexicanamerican, and 1 Asianamerican.

Behavior check list

A list of 33 child behaviors, and 15 teacher and peer reactions were used for this study. The list is presented in Table 1.

Procedure

The children were seen in two different classes (two classes were run throughout the study), with approximately 12 children, equally divided among boys and girls, in each class. Two undergraduate students served as teachers throughout the term. The study continued over a two-year period, divided into 7 ten week terms corresponding to the university school year.

The room was approximately 20 by 25 feet, equipped with standard preschool equipment. Observers were in an observation room with a separate entrance and observed through a one way mirror. Teachers were instructed to let the children choose their own activities, and to interfere only when a child was obviously disturbed. The teachers did provide varied activities each day, which were placed on tables or the floor for children to choose, but no attempt was made to have each child sample all activities.

Two hours of observation were completed each session. Children were observed in a predetermined order, once every five minutes. Each child was observed for five seconds, with the child behavior, the reactors, and then the reaction being coded. All children participated in the study for at least one ten week term so that each child in the study was observed for at least 40 hours, 12 observations per hour. Many children remained in the play groups for more than one term so the data can be examined for any changes.

Observers were trained using video tapes. Reliabilities using video tapes and during spot checks in the observation room exceeded 90% agreement for the child behaviors and 75% for the reactions. A total of 21 observers participated at different times during the study.

Results and Discussion

Factor analysis of behavior choices

A score for each child on each behavior was obtained by dividing the number of observations that a child was observed in that behavior by the total number of observations for that child. There were 33 behavior scores for each child in the study. Correlations of all possible pairs of behaviors were carried out on these scores and the resulting correlation matrix was factor analyzed with seven factors resulting, accounting for 94.2% of the variance. The factors and behavior loadings were summarized in Table 2. Tentative factor descriptions have been placed on each factor.

It should be made clear that seven factor scores can be obtained for each of the seven 10 week terms. One important methodological question concerns the stability of factor scores over terms. This was measured by correlation of factor scores for all children seen in at least two terms for all pairs of terms. Reliability was high (over .70) over a period of a year

and even over the two year period reasonably stable correlations (over .40) were obtained. This was despite the fact that few children remained in the sample over the entire two year period.

Sex differences in factor score

The present paper will look at consequences of high and low scores on factors 1) High task complexity, 2) High social cooperation, 3) Activity level, and 5) Passive-withdrawn behavior. The two sex-role factors 4 (masculine) and 7 (feminine) were discussed in another paper and the results will only be referred to in this paper. There were no sex difference in factor loadings on factors 2 and 5. However more boys were above the mean on factors 1 ($X^2 = 4.40, p < .05$) and 3 ($X^2 = 5.29, p < .05$) than girls.

Peer and teacher reactions

The amount of peer and teccher reinforcement received by boys and girls is not very different. Three way analyses of variance (sex of child, class, and type of reactor, peer or teacher, as a repeated measure) were carried out on the 14 different reactions. Girls received more positive comment ($F(1,65)=4.60$, $p < .05$) and boys marginally more negative comments ($F(1,65)=3.58$, $p < .06$) with no interactions between the sex of child and type of reactor. There was no difference in amount of time that boys and girls played alone in this group of children. The 15 reactions were also categorized into positive and negative responses. Boys and girls did not differ in the overall amount of positive and negative feedback they received in the classroom.

The next analyses was carried out on children who were one standard deviation above and below the mean for each of the four factors (1, 2, 3, and 5). Again the 15 reactions were categorized into positive and negative teacher responses, positive and negative peer responses, and child plays alone. Proportion scores were computed by taking the number of times a child was reacted to in one of the five categories divided by total number of

observations (the proportions do not add to 10 because not all reaction categories were considered in this analyses). Two-way analyses of variance were carried out on each of the five reaction categories among the four different factors. The means presented are proportions of responses to the children in that category.

Children high on factor 1 received more positive teacher feedback ($\bar{X}_H$=.16, $\bar{X}_L$=.06. $F(1,13) = 14.72$, $p < .01$), while children low on this factor played alone significantly more ($\bar{X}_H$=.32, $\bar{X}_L$= .44. $F(1,13)$=15.58, $p < .01$). Children low on this factor received more negative teacher reaction ($\bar{X}_H$= .004, $\bar{X}_L$ = .013. $F(1,13) = 4.0$, $p < .10$). Peer responses were not effected nor were there any significant sex effects between high and low children on this factor.

Children high on factor 2 received more positive taacher feedback ($\bar{X}_H$= .253, $\bar{X}_L$= .087. $F(1,17) = 27.44$, $p < .01$), more positive peer feedback ($\bar{X}_H$=.31, $\bar{X}_L$ = .12 $F(1,17)$=12.59, $p < .01$), and less negative peer feedback ($\bar{X}_H$= .005, $\bar{X}_L$= .021. $F(1,17)$=7.07, $p < .05$). Children low on factor 2 played alone significantly more ($\bar{X}_H$= .19, $\bar{X}_L$ = .36. $F(1,17) = 5.25$, $p < .05$). There weretwo significant sex differences with girls receiving more positive teacher reaction ($\bar{X}_G$= .21, $\bar{X}_B$=.12. $F(1,17) = 8.67$, $p < .05$) and with girls playing alone less than boys ($\bar{X}_G$= .21, $\bar{X}_B$= .34. $F(1,17)$= 8.51, $p < .05$).

Children high on factor 3 received more positive peer comment ($\bar{X}_H$=.23, $\bar{X}_L$=.098. $F(1,15)$=8.29, $p < .05$). Children low on this factor played alone more often ($\bar{X}_H$= .24, $\bar{X}_L$= .41. $F(1,15)$=13.56, $p < .01$), and there was a significant interaction with sex (F 1,15=4.43 $p < .05$) with girls low on this factor playing alone more than all other categories. Teachers criticized high activity children more than low ($\bar{X}_H$ = .04, $\bar{X}_L$ = .02, $F(1/15)$=4.33, $p < .10$).

There was a significant sex difference on factor 5 with girls receiving more positive teacher feedback ($\bar{X}_G$ = .17, $\bar{X}_B$ = .12. $F(1,17) = 7.86$, $p < .05$) with a significant interaction with girls low on this factor receiving more positive peer and teacher interaction than other groups.

I'd like now to look at the consequences in four different combinations of loading on Factor 1 (task complexity) and Factor 3 (activity level). These factors were chosen because there were significant differences in loadings

between boys and girls and because both contain items which are often considered indicators of future performance within a school situation. Two boys and two girls were chosen for study in each of the four combinations (high task, low activity; high task, high activity; low task, high activity; and low task, low activity). In each case the most extreme boys and girls were chosen, that is, in the case of high and low categories, the children with the highest and lowest scores, and in the other two cases the children with the greatest difference between their scores. Confidence intervals were constructed around the means for boys and girls, for positive and negative peer reaction and for positive and negative teacher reaction, as well as playing alone.

The results presented in Table 3 are those reactions where the extreme children were reacted to significantly differently than the mean reaction to all children of their sex in the study.

It appears that teachers reward boys who choose to play with tasks of high complexity but do not differentiate high task for girls. High activity level is a cue for teachers to be more critical for both boys and girls, but in the case of high task-high activity, boys they still also receive more positive comment, while that didn't hold for the girls. For boys high activity level resulted in more positive peer feedback, while this was not true for girls. The combination of low activity and low task behaviors for boys and girls resulted in their being ignored.

What we see here is that the consequences of sex are not simple. Instead we start to see that particular combinations of play choices have differential rewards for boys and girls. High activity level in girls received few rewards, while in boys it resulted in positive peer feedback. High task interest for boys means more positive teacher attention, but no such result

occurs for girls. In an earlier presentation (Fagot, 1978) I showed that sex stereotyped choices gained positive peer and teacher reactions for both boys and girls. In particular, for the girl combined with the results from thisstudy what this means is that sex stereotyped behavior choices are the only sure way to get consistent positive feedback from both peers and teachers. Boys on the other hand receive peer and teacher reinforcement for different behaviors, and as found by Serbin et al., (1973) teachers give boys more positive feedback when they engage in tasks appropriate academic behaviors than they give girls engaging in the same task.

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Table 1

Observation schedule - Play styles

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APA

Child Behaviors

1. Rough and tumble play (Wrestling, running, etc.)
2. Climb, slide
3. Manipulate or look at objects - no particular type of play
4. Art activities (draw, color, paint)
5. Play with clay
6. Design boards, puzzles, lego, etc
7. Build with small blocks, set up farms, villages
8. Play with large blocks
9. Play with transportation toys
10. Play puppets
11. Play dolls, house, [illegible] rehearse domestic activities
12. Play with ball, throw frisbee
13. Dress up
14. Fantasy play
15. Sing, listen to records
16. Look at books, listen to story
17. Look at, watch person
18. Talk, carry on conversation, touch, make social contact in some way
19. Demand attention
20. Crying, whining
21. Help at a task
22. Sit and do nothing, fidget, follow teacher
23. Take object, invade another's territory, throw objects
24. Hit, push, shove
25. Verbal aggression, yell, scream, criticize
26. Receives aggression (physical or verbal)
27. Hide
28. Play in wagon
29. Hammering - carpentry play
30. Child in transition
31. Dancing
32. Organized games
33. TV, radio, camera

Reactor

A. Boy or boys
B. Girl or girls
C. Mixed sex group
D. Teacher 1
E. Teacher 2 (teachers will be assigned code)
F. Teacher 3

Reactions

1. Initiate behavior
2. Comment favorably - positive feedback
3. Hug, physical affection
4. Criticizes - punishes
5. Physical restraint or aggression
6. Child is ignored
7. Child is helped, given information
8. Close physical proximity, but not interaction of any kind
9. Parallel play, no interaction but involved in same activity
10. Child is imitated
11. Child is looked at, eye contact
12. Verbal interaction - talks together, conversation
13. Cooperative play - work together on a single task
14. Child continues alone
15. Associative play, interaction, but not necessarily same activity or cooperative

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Table 2

Factor Definitions (items with loadings over ± .30)

Factor		
.57	Play with clay	+ high cognitive complexity
.3	Design boards	
.48	Build small blocks	
.70	Build large blocks	
.70	Play puppets	
.53	Look at books	
.45	Demand attention	
.32	Help at task	
-.59	Child in transition	
-.36	Play toy camera, camera, radio	
Factor 2		
-.43	Manipulate objects	
.83	Fantasy play	+ high social cooperation
-.55	Look at person or object	
-.30	Demand attention	
-.41	Do nothing; fret	
.31	Play in wagon	
.36	Dance	
.59	Organized games	
Factor 3		
.77	Roughtb tumble play	+ high active motor-verbal
.40	Climb, slide	
-.30	Art activities	
.64	Talk, carry on conversation	
.30	Demand attention	
.30	Help at task	
.56	Verbal aggression	
-.33	Play TV, camera, radio	
Factor 4		
.37	Play transportation toys	
-.35	Look at person	+aggressive masculine
.30	Cry, whine	
.90	Take object	
.58	Hit, push, shove	
.33	Camera, TV, radio	
Factor 5		
-70	Art activities	
.48	Do nothing	+ passive, nontask
.67	Receives aggression	
.53	Hide	

Factor 6

-.34	Climb, slide	+ task involved; low activity
.57	Design boards	
.45	Transportation toys	
.68	Sing, listen to records	
-.41	Look at object or person	

Factor 7

.33	Art activities	+ feminine
.65	Play dolls	
.59	Dance	

Reactions to Children Extreme in Activity Level

and Task Behaviors

	High Task Low Activity		High Task High Activity		Low Task High Activity		Low Task Low Activity	
Peer Reinf. (+)	B	G	B	G	B	G	B	G
	Less		More		More		Less	Less
Peer Reinf. (-)					More	More		
Teacher Reinf. (+)	More		More				Less	Less
Teacher Reinf. (-)			More	More				
Play Alone							More	More